PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Suzanne Cory, et al.

Serial No.:

09/508,745

Filed:

July 12, 2000

For:

A METHOD OF TREATMENT AND AN **Dated:**

ANIMAL MODEL USEFUL FOR SAME

Assistant Commissioner for Patents Washington, D.C. 20231

Examiner: Sumesh Kaushal

Art Unit:

1633

Docket:

13464

October 26, 2001

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, it is requested that the following references, which are also listed on the attached Form PTO-1449, be made of record in the above-identified case.

- 1. Tsujimoto. et al., "Involvement of the bcl-2 Gene in Human Follicular Lymphoma", Science 228: 1440-1443 (1985);
- 2. Kerr, J.F.R. et al., "Apoptosis: A Basic Biological Phenomenon with Wide-Ranging Implications in Tissue Kinetics", Br. J. Cancer 26: 239-257 (1972);
- 3. Strasser, A. et al., "The Role of the bcl-2 / ced-9 Gene Family in Cancer and General Implications of Defects in Cell Death Control for Tumourigenesis and Resistance to Chemotherapy", Biochimica et Biophysica Acta F151-F178 (1997);

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Ratents, Washington, DC 20231 on October 26, 2001.

Dated: October 26, 2001

- 4. Adams, J.M. et al., "The Bcl-2 Protein Family: Arbiters of Cell Survival", Science 281: 1322-1326 (1998);
- 5. Chao, D.T. et al., "Bcl-2 Family: Regulators of Cell Death", Annu. Rev. Immunol 16: 395-419 (1998);
- 6. Oltvai, Z.N. et al., "Bcl-2 Heterodimerizes In Vivo with a Conserved Homolog, Bax, that Accelerates Programed Cell Death", Cell 74: 609-619 (1993);
- 7. Pan, G. et al., "Caspase-9, Bcl-X_L, and Apaf-1 Form a Ternary Complex", The Journal of Biological Chemistry 273(10): 5841-5845 (1998);
- 8. Chinnaiyan, A.M. et al., "Interaction of CED-4 with CED-3 and CED-9: A Molecular Framework for Cell Death", Science 275: 1122-1126 (1997);
- 9. Susin, S.A. et al., "Bcl-2 Inhibits the Mitochondrial Release of an Apoptogenic Protease", J. Exp. Med. 184: 1331-1341 (1996);
- 10. Yang, J. et al., "Prevention of Apoptosis by Bcl-2: Release of Cytochrome c from Mitochondria Blocked", Science 275: 1129-1132 (1997);
- 11. Kluck, R.M. et al., "The Release of Cytochrome c from Mitochondria: A Primary Site for Bcl-2 Regulation of Apoptosis", <u>Science</u> 275: 1132-1136 (1997);
- 12. Veis, D.J. et al., "Bcl-2-Deficient Mice Demonstrate Fulminant Lymphoid Apoptosis, Polycystic Kidneys, and Hypopigmented Hair", Cell 75: 229-240 (1993);
- 13. Kamada, S. et al., "*Bcl-2* Deficiency in Mice Leads to Pleiotropic Abnormalities: Accelerated Lymphoid Cell Death in Thymus and Spleen, Polycystic Kidney, Hair Hypopigmentation, and Distorted Small Intestine", Cancer Research 55: 354-359 (1995);
- 14. Nakayama, K. et al., "Disappearance of the Lymphoid System in Bcl-2 Homozygous Mutant Chimeric Mice", Science 261: 1584-1588 (1993);
- Nakayama, K. et al., "Targeted Disruption of Bcl-2aβ in Mice: Occurrence of Gray Hair, Polycystic Kidney Disease, and Lymphocytopenia", <u>Proc. Natl.</u> <u>Acad. Sci. USA 91</u>: 3700-3704 (1994);
- 16. Amling, M. et al., "Bcl-2 Lies Downstream of Parathyroid Hormone-Related Peptide in a Signaling Pathway that Regulates Chondrocyte Maturation During Skeletal Development", <u>The Journal of Cell Biology</u> 136(1): 205-213 (1997);

- 17. Michaelidis, T.M. et al., "Inactivation of *bcl-2* Results in Progressive Degeneration of Motoneurons, Sympathetic and Sensory Neurons During Early Postnatal Development", Neuron 17: 75-89 (1996);
- 18. Motoyama, N. et al., "Massive Cell Death of Immature Hematopoietic Cells and Neurons in Bcl-x-Deficient Mice", Science 267: 1506-1510 (1995);
- 19. Needleman, S.B. et al., "A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins", <u>J. Mol. Biol.</u> 48: 443-453 (1970);
- 20. Lou, D. et al., "Enhanced Molecular Mimicry of CEA Using Photoaffinity Crosslinked C3d Peptide", Nature Biotechnology 16: 458-462 (1998);
- 21. Boyle, J.S. et al., "Enhanced Responses to a DNA Vaccine Encoding a Fusion Antigen that is Directed to Sites of Immune Induction", Nature 392: 408-411 (1998);
- 22. Lane, P. et al., "Soluble CD40 Ligand Can Replace the Normal T Cell-Derived CD40 Ligand Signal to B Cells in T Cell-Dependent Activation", <u>J. Exp. Med.</u> 177: 1209-1213 (1993);
- 23. Köntgen, F. et al., "Mice Lacking the c-rel Proto-Oncogene Exhibit Defects in Lymphocyte Proliferation, Humoral Immunity, and Interleukin-2 Expression", Genes & Development 9: 1965-1977 (1995);
- 24. Mansour, S.L. et al., "Disruption of the Proto-Oncogene *int-2* in Mouse Embryo-Derived Stem Cells: A General Strategy for Targeting Mutations to Non-Selectable Genes", Nature 336: 348-352 (1988);
- 25. Lakso, M. et al., "Efficient *in vivo* Manipulation of Mouse Genomic Sequences at the Zygote Stage", <u>Proc. Natl. Acad. Sci. USA</u> 93: 5860-5865 (1996);
- 26. Hudson, D., "Fitting Segmented Curves Whose Join Points Have to be Estimated", J. Am. Stat. Assoc. 61: 1097-1129 (1966);
- 27. Chomczynski, P. et al., "Single-Step Method of RNA Isolation by Acid Guanidinium Thiocyanate-Phenol-Chloroform Extraction", <u>Analytical Biochemistry 162</u>: 156-159 (1987);
- 28. Gorczyca, et al., "Detection of DNA Strand Breaks in Individual Apoptotic Cells by the *in Situ* Terminal Deoxynucleotidyl Transferase and Nick Translation Assays", Cancer Research 53: 1945-1951 (1993);
- 29. Unkeless, J.C., "Characterization of a Monoclonal Antibody Directed Against Mouse Macrophage and Lymphocyte Fc Receptors", <u>J. Exp. Med.</u> 150: 580-596 (1979);

- 30. Strasser, A. et al., "Bcl-2 Transgene Inhibits T Cell Death and Perturbs Thymic Self-Censorship", Cell 67: 889-899 (1991);
- 31. Metcalf, D. et al., <u>The Hemopoietic Colony-Stimulating Factors</u> (Elsevier Science Publications, Amsterdam);
- 32. Wreford, N.G., "Theory and Practice of Stereological Techniques Applied to the Estimation of Cell Number and Nuclear Volume in the Testis", Microscopy Research and Technique 32: 423-436 (1995);
- 33. Meinhardt, A. et al., "Localization of Follistatin in the Rat Testis", <u>Journal of Reproduction and Fertility 112</u>: 233-241 (1998);
- 34. Lee, V.W.K. et al., "Variations in Serum FSH, LH and Testosterone Levels in Male Rats from Birth to Sexual Maturity", <u>Journal of Reproduction and Fertility 42</u>: 121-126 (1975);
- 35. Lee, et al., "Genomic Structure and Expression of Murine Poly (A) Binding Protein II Gene", Biochimica et Biophysica Acta 1395: 40-46 (1998); and
- 36. O'Connor, L. et al., "Bim: A Novel Member of the Bcl-2 Family that Promotes Apoptosis", The EMBO Journal 17(2): 384-395 (1998).

Applicants are submitting copies of the above-cited references.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(b), no statement or fee is required.

Respectfully submitted,

Frank S. DiGiglio Registration No. 31,346

Scully, Scott, Murphy & Presser 400 Garden City Plaza Garden City, New York 11530 (516) 742-4343

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TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (Under 37 CFR 1.97(b) oP 1.97(c)) Docket No. 13464									
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